

### REMARKS

Claims 19, 20, 22-28, and 30-40, as amended without prejudice, and new claim 41 are presented for the Examiner's review and consideration. Applicants appreciate the courtesies extended by Examiner Clark F. Dexter during an interview on June 12, 2001, and acknowledge the Examiner's statement that claims 21, 22, and 40 would be allowable if, rewritten to (1) overcome any rejections under 35 U.S.C. 112; and (2) include the limitations of any base claim and any intervening claims.

Claims 21 and 29 have been canceled without prejudice. The subject matter recited in claim 21 has been added to claims 19 and 30, and the language of claim 29 has been added to claim 20. A clarifying amendment has been made without prejudice to claim 40, and new claim 41 incorporates the subject matter of originally filed claims 19, 20, and 21. No new matter has been added, as the amendments are supported by the specification as originally filed.

In the Office Action dated July 5, 2001, the Examiner objected to claim 25 because it did not end in a period. Applicants respectfully request that this objection be withdrawn, as this informality has been corrected.

Claims 21, 22, and 40 were rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described by the specification as originally filed. In particular, the Examiner argued that the original disclosure does not provide sufficient support for the shearing elements of FIGS. 2a-c being bevelled.

"The purpose of section 112, first paragraph, is to ensure that there is an adequate disclosure of the invention for which patent rights are sought." Kennecott Corp. v. Kyocera International, Inc., 835 F.2d 1419, 5 USPQ2d 1194 (Fed. Cir. 1987), cert denied, 486 U.S. 1008 (1988). The purpose of the written description requirement is to "convey with reasonable clarity to those skilled in the art that, as of the filing date sought . . . [the applicant] was in possession of the invention." Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111 (Fed. Cir. 1991). As summarized by the Federal Circuit:

"The test for determining compliance with the written description requirement, is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. . . . The content of the drawings may also be considered in determining compliance with the written description requirement." In re Kaslow, 217 USPQ 1089 (Fed. Cir. 1983).

Applicants respectfully submit that the as-filed application adequately discloses and describes to one skilled in the art the invention recited in claims 20, 21, and 40, for the following reasons:

The specification (page 4, lines 1-22) and figures (FIGS. 1a-1c) explicitly disclose the structure and use of bevelled elements in forming the shearing device according to the invention:

*"In the schematic representation of Figs. 1a-1c, each of the upper part 1 and the lower part 2 of the tool according to the invention is shown as two rectangular blocks 1', 1", 2' and 2". Each block 1', 1", 2', 2" is bevelled to form a sharp cutting edge 6. As shown in Fig. 1a, the cutting edges of the blocks in the upper part 1 touch directly the cutting edges of the lower part 2. These cutting edges are brought as closely as possible to the area 7 of the plate 3 to be cut . . . [i]n accordance with the invention, to cut the plate 3, one (or both) of the blocks 1 and 2 are rotated relative to one another . . . about . . . the . . . object to be cut, which is generally perpendicular to the plane of rotation 8 of the shearing device."* (Emphasis added). (Page 4, lines 1-18).

The specification expressly describes FIG. 1a as a "schematic representation" (Page 4, line 1), and illustrates in a detailed view the action of cutting a bone plate. FIG. 2a is described as "an embodiment of the invention" (Page 3, line 12), and shows one form the cutting tool may take as a whole.

Indeed, the specification states:

*"Figs. 2a-2c show a specific form of the invention in which the shearing elements are circular discs. Referring to Fig. 2a, 1a and 2a depict the upper and lower shearing elements which have a disc-shaped form."* (Page 4, lines 1-18). (Emphasis added)

One of skill in the art would reasonably comprehend and understand from the foregoing text that the bevelled upper and lower shearing elements of FIG. 2a may take the form of the upper part 1 and lower part 2 illustrated in FIGS. 1a-1c.

The element numbers of FIGS. 1a-1c substantially correspond with the element numbers in FIGS. 2a-2c, thus suggesting that upper and lower shearing elements of FIG. 2a refer to the upper part 1 and lower part 2 illustrated in FIGS. 1a-1c. For example, the upper and lower shearing elements of FIGS. 1a-1c are designated with the numerals 1 and 2, and the shearing elements identified in FIGS 2a-2c are designated as elements 1a and 2a, respectively. In another example, the cutting edges of the invention shown in FIG. 1a-1c are

labeled by the numeral 6 and the cutting edges of FIGS. 2a-2c are designated as element number 6a.

Thus, one skilled in the art would understand from the specification as a whole, that the bevelled shearing elements of FIGS. 1a-1c may be included as structural features of the circular discs shown in FIGS. 2a-2c. Accordingly, Applicants respectfully submit that the specification at the time of filing adequately discloses the subject matter of claims 21, 22 and 40, and requests that the rejection of these claims under 35 U.S.C. § 112, first paragraph be withdrawn.

Claims 19-40 were rejected under 35 U.S.C. § 112, second paragraph as being vague and indefinite. Applicants have amended claims 19-40, without prejudice, to clarify the nature of the claimed subject matter. Claim 19 has been amended to recite that the first and second heads contact one another when applying a shearing force on the bone plate. Claim 20 has been amended to clarify which cutting edge is set forth in the claim. Claim 21 has been canceled without prejudice, and the subject matter of claim 19 has been added to claim 19 and claim 30. Claim 22 has been amended to clarify the language of the claim. Claim 24 has been amended to recite that the back faces are substantially smooth. Claims 26 and 27 have been amended to clarify the configuration of the assembly being claimed. Claim 30 has been amended to clarify the structure of the apparatus and to provide an antecedent basis for the cutting edges. Claims 35 and 36 have been amended to clarify the configuration of the apparatus that is being claimed. Claim 38, which was rejected as dependent on a vague and indefinite base claim, has more been more particularly claimed by virtue of amendment of claim 30. Claim 39 has been amended according to the Examiner's suggestion, and claim 40 has been amended to clarify how the cutting edges of the apparatus are configured.

In light of the foregoing amendments made without prejudice, Applicants respectfully submit that the respective rejections under 35 U.S.C. § 112, second paragraph have been overcome and should be withdrawn.

Claims 19, 20, and 23-39 were rejected under 35 U.S.C. § 102 (b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 (a) as obvious over U.S. Patent No. 825,401 to Merkens ("Merkens") and separately as to U.S. Patent No. 1,285,926 to Bussler ("Bussler"). The Examiner argued that each of these references disclose all the elements recited in claims 19, 20, and 23-39 and that it would have been obvious to one ordinary skill in the art to use two tools to perform a desired task. As stated by the Examiner, Merkens and Bussler disclose a tool having opposing edges which are generally formed by a 90 degree intersection of two

surfaces. Claims 19 and 30 have been amended, without prejudice, to recite that each slot has a bevelled cutting edge. In view of the Examiner's statement regarding the allowability of the subject matter in claims 21, and 22, Applicants respectfully submit that rejection of claims 19 and 30 under 35 U.S.C. § 102 (b), or in the alternative, under 35 U.S.C. § 103 (a) have been overcome and should be withdrawn.

With respect to claims 20, 22-28, and 31-39, which depend from claims 19 and 30, Applicants submit that because these claims define more particular aspects of Applicants' invention (as well including the features of claims 19 and 30), they are also patentably distinguished over the cited references for the above reasons, as well as the additional features of the respective claims.

As previously addressed, Applicants respectfully submit that rejection of claim 40 under 35 U.S.C. § 112, first paragraph has been overcome, and new claim 41 incorporates subject matter acknowledged by the Examiner as allowable.

In view of the foregoing amendments and remarks, it is believed that all rejections have been overcome and should be withdrawn. Thus, all current claims are submitted to be in condition for allowance, early notice of which would be appreciated. If the Examiner does not agree, then a personal or telephonic interview is respectfully requested to discuss any remaining issues and accelerate the eventual allowance of the claims.

Applicants believe that fees are due in connection with the submission of this amendment as indicated in the attached Petition for Extension of Time and as calculated on the attached Fee Transmittal Sheet. Should any other fees be required, please charge such fees to Pennie & Edmonds Deposit Account No. 16-1150.

Respectfully submitted,

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Enclosures

Amendment in response to Office Action dated 7/5/2001

Serial No.: 08/659,056

Pennie & Edmonds I.I.P: (202) 496-4400

Filed: June 3, 1996

Attorney Docket: 8932-309

Inventor: BAUER *et al.*

Date: 11/5/2001

For: METHOD AND APPARATUS FOR CUTTING BODIES  
HAVING NON-CIRCULAR CROSS SECTION

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### APPENDIX A

#### MARKED UP VERSION OF AMENDED CLAIMS

19. (Amended) A bone plate cutting [apparatus] assembly for shearing by transverse forces a bone plate having a non-circular cross-section and a longitudinal axis, comprising:

a first shearing element comprising

a handle for manipulation of the first shearing element; and

a first head attached to the handle and having a front face, a back face, and at least one outer surface, the first head having a slot through the front and back faces and extending from the outer surface towards an interior of the first head; and

a second shearing element comprising

a handle for manipulation of the second shearing element; and

a second head attached to the handle and having a front face, a back face, and at least one outer surface, the second head having a slot through the front and back faces and extending from the outer surface towards an interior of the second head;

wherein each slot has at least one bevelled cutting edge, and the first and second heads [are configured to] contact one another as the first and second heads rotate counter to one another so that the cutting edges apply a shearing force on opposite sides of the bone plate.

20. (Amended) The assembly of claim 19, wherein [the first and second] each slot[s define opposing faces and at least one opposing face of each set of opposing faces] has a second cutting edge.

22. (Amended) The assembly of claim [21] 20, wherein [other opposing face of each shearing element is beveled] each slot has opposing cutting edges.

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For:	METHOD AND APPARATUS FOR CUTTING BODIES HAVING NON-CIRCULAR CROSS SECTION	Appendix A Page 2 of 4

24. (Amended) The assembly of claim 23, wherein the back faces are [adapted to slide against each other] substantially smooth.

25. (Amended) The assembly of claim 19, wherein at least a portion of each handle is tapered.

26. (Amended) The assembly of claim 19, wherein each handle has a longitudinal axis and the relative position of the longitudinal axes of the handles are configured at an acute angle when initiating rotation of the heads about the bone plate.

27. (Amended) The assembly of claim 26, wherein the angle formed [by] between the handles of each head decreases as the heads are rotated about the bone plate.

30. (Amended) A bone plate cutting apparatus for shearing by transverse forces a bone plate having a non-circular cross-section and a longitudinal axis, comprising:

a first shearing element comprising

a handle for manipulation of the first shearing element; and

a first head attached to the handle and having upper, lower, and side surfaces, and a slot through the upper and lower surfaces with a bevelled cutting [element] edge thereon, the slot having fixed dimensions and extending from the side surface and tapering from the side surface toward an interior of the first head; and

a second shearing element comprising

a handle for manipulation of the second shearing element; and

a second head attached to the handle and having upper, lower, and side surfaces, and a slot through the upper and lower surfaces with a bevelled cutting [element] edge thereon, the slot having fixed dimensions and extending from the side surface and tapering from the side surface toward an interior of the second head,

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HAVING NON-CIRCULAR CROSS SECTION

wherein rotation of the first and second heads counter to one another with the heads directly touching each other at the cutting edges applies a torsional shearing force on the bone plate in a plane transverse to the longitudinal axis of the bone plate.

35. (Amended) The apparatus of claim 30, wherein each handle has a longitudinal axis and the relative position of the longitudinal axes of the handles are configured at an acute angle when initiating rotation of the heads about the bone plate.

36. (Amended) The apparatus of claim 30, wherein each handle has a longitudinal axis and the angle formed by the relative position of the longitudinal axes of the handles of each head decreases as the heads are rotated about the bone plate.

39. (Amended) The apparatus of claim 30, wherein the first and second shearing elements have substantially identical structure.

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40. (Amended) A cutting assembly for shearing a bone fixation member having a longitudinal axis and opposing sides, comprising:

    a first shearing element comprising

        a handle for manipulation of the first shearing element;  
        a first head attached to the handle and having a front face, a back face having a surface a portion of which is substantially flat and at least one outer surface, the first head having a slot of fixed dimensions through the front and back faces and extending from the outer surface toward an interior of the first head, the slot defining opposing faces, at least one of such opposing faces tapering from the front face towards the back face such that the distance between the opposing faces at the front face is greater than the distance between the opposing faces at the back face; and

    a second shearing element comprising:

        a handle for manipulation of the second shearing element; and  
        a second head attached to the handle and having a front face, a back face having a surface a portion of which is substantially flat, and at least one outer surface, the second head having a slot of fixed dimensions through the front and back faces and extending from the outer surface toward an interior of the second head, the slot defining opposing faces at least one of such faces tapering from the front face towards the back face such that the distance between the opposing faces at the front face is greater than the distance between the opposing faces at the back face,

    wherein the tapered opposing face of each shearing element forms a cutting edge thereon, and at least a portion of the cutting edges [are configured to] contact opposite sides of the bone fixation member when the back faces of the respective shearing elements are rotated while directly touching each other.